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TRANSMITTAL OF APPEAL BRIEF (Large Entity)	Docket No. ITL.0535US

In Re Application Of: **Roland M. Morley et al.**

Serial No.	Filing Date	Examiner	Group Art Unit
09/847,447	May 2, 2001	S. Leurig	2879

Invention: **Large Format Emissive Display**

TO THE COMMISSIONER FOR PATENTS:

Transmitted herewith in triplicate is the Appeal Brief in this application, with respect to the Notice of Appeal filed on **March 18, 2004.**

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Signature

Dated: April 30, 2004

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Applicant:		§		
	Roland M. Morley et al.	§	Art Unit:	2879
		§		
Serial No.:	09/847,447	§		
		§	Examiner:	S. Leurig
Filed:	May 2, 2001	§		
		§		
For:	Large Format Emissive Display	§	Atty Docket:	ITL.0535US P10840
		§		
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APPEAL BRIEF

Sir:

Applicants respectfully appeal from the final rejection mailed December 23, 2003.

I. REAL PARTY IN INTEREST

The real party in interest is the assignee Intel Corporation.

II. RELATED APPEALS AND INTERFERENCES

None.

Date of Deposit: April 30, 2004
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III. STATUS OF THE CLAIMS

Claims 1-11 are rejected. Each rejection is appealed.

IV. STATUS OF AMENDMENTS

All amendments have been entered.

V. SUMMARY OF THE INVENTION

Referring to Figure 1, an emissive display tile 100 may include a plurality of electroluminescent cells 20 each producing a pixel or subpixel of monochrome or color light. Thus, the cells 20 in a given display tile 100 may produce one or more pixels or subpixels of light which can contribute to the display of an image. In some cases, a large number of cells 20 may be utilized. In another case, fewer cells may be appropriate.

The display tile 100 may include an integrated circuit driver chip 10. The chip 10, mounted on the lower surface of the display tile 100, actually drives the display cells 20 by way of electrical connections in feedthroughs (not shown).

The tile 100 may include a body 24. In one embodiment, the body 24 may be a ceramic layer. Over the body 24 is a transparent layer 104 which may be formed of glass. A black material 102 is applied in a grid pattern on the top surface of the transparent layer 104. See specification at page 2, line 22 through page 3, line 14.

The emissive cells 20 may actually be formed on the bottom surface of the transparent layer 104. The cells 20 are then visible from above, as shown in Figure 1, because of the transparent nature of the transparent layer 104. In one embodiment, each cell 20 may include three light emitting elements such as a red, green and blue light emitting element.

The black material 102 includes an intermediate section 102a of greater width and a peripheral section 102b that may be less than one-half the width of the material 102a. Thus, when tiles 100 are butted one against the other and a slight gap is left between adjacent tiles, the combined sections 102b from two adjacent tiles 100 have a resulting width approximately equal to that of the section 102a. As a result, when the combined display is viewed, it has a consistent matrix pattern of pixels.

The black material 102 forms a matrix that covers the voids between individual cells 20. This may reduce reflection from electrode structures (not shown) on the bottom surface of the transparent layer 104 thereby increasing pixel contrast. The matrix 102 may be a grid of optically black absorbing material that covers the horizontal and vertical spaces between the cells 20 in the form of horizontal and vertical stripes.

The black matrix material 102 may be optically absorbing to visible wavelengths of light and resistant to removal during cleaning of the completed assembly with water or mild solvents. As one example, a black emulsion, as typically used in photomask fabrication may be used for this purpose. See specification at page 3, line 15 through page 4, line 25.

Referring to Figure 2, the tile 100 may be mounted on a backplate 110. Each module 101, composed of a tile 100 with a backplate 110, may be optically, electrically and mechanically interchangeable with a plurality of other components in accordance with one embodiment of the present invention. The module assembly is performed at an optical alignment station that provides x,y and z dimensions to tolerances of about 10 microns in each direction. This means that the smallest pixel pitch for a seamless appearance is about one millimeter.

The backplate 110 may provide mechanical support to the display tile 100. The backplate 110 may assembled to the display tile 100 using a thin, flexible epoxy adhesive in one embodiment.

A pair of alignment elements 112 on the backplate 110 provide x and y alignment control at display assembly between the display tile 100 and the backplate 110. A variety of alignment elements 112 may be used including holes, grooves, tabs, and a variety of pin shapes as a few examples. An exemplary backplate 110 thickness may be one millimeter or more.

The backplate 110 may be smaller in size than the tile 100 by about one millimeter or more in one embodiment. Cut out regions (not shown) in the backplate 110 may provide clearance for tile electronics such as the chip 10 and connectors that are disposed on the back side of the tile 100. The backplate 110 may also include fastener extensions 114 for attachment to a backframe (not shown in Figure 2).

Referring to Figure 3, the backframe 120 may include a number of alignment devices 124 to receive the alignment elements 112 and fasteners 114 of a plurality of modules 101. The alignment devices 124 may be pins, holes, grooves, or tabs, as a few examples. The alignment devices 124 mate with and align the alignment elements 112. As a result, a large number of modules 101 may be secured on the backframe 120 in precise relative alignment. The fasteners 114 may be secured onto the backframe 120 using nuts 122 as one example. See specification at page 5, line 1 through page 6, line 16.

The seams between adjacent modules 101 can then be filled by an optically clear, substantially index matching gap material 128. The gap material 128 may be an adhesive such as an acrylic or silicone adhesive. The gap material 128 may reduce the amount light scattered

from the edges of each panel which would otherwise cause a seam to be visible, particularly when viewed off-axis.

A black patterned coating 126 may be applied to the front of the large format display 200 in a form of horizontal and vertical stripes to cover the front of the seams, for example using a syringe. The width of the coating 126 may substantially match the width of the stripes of material 102a patterned on the individual tiles 100. The material used in the coating 126 may be identical to or similar in optical and mechanical properties to the material 102 used to pattern the stripes on the individual tiles 100.

The patterning results in a visual effect that presents a low contrast mesh pattern superimposed over the displayed image. This pattern may become part of the pixelated structure of the display, at a spatial frequency equal to that of the pixels. For normal viewing the distances between the fine structure of this pattern may not be resolvable in some embodiments. If one tile 100 must be replaced, its module 101 may be readily disconnected from the backframe 120. See specification at page 6, line 17 through page 7, line 23.

VI. ISSUES

A. Is Claim 1 Anticipated by Li?

B. Is Claim 1 Anticipated by Seraphim?

VII. GROUPING OF THE CLAIMS

All of the claims may be grouped with claim 1 for convenience on appeal.

VIII. ARGUMENT

A. Is Claim 1 Anticipated by Li?

Claim 1 was rejected under Section 102 over Li. Apparently, the Examiner has interpreted alignment elements and alignment devices to include merely electrical contacts. It is true that in the Li reference it is pointed out that alignment can be achieved. But, of course, this alignment is not in any way due to any structure. The solder balls and contacts do not themselves function as alignment elements -- i.e., elements that serve to align. Instead, all these devices do is allow the user to try to align one element with the other element. There is no alignment feature inherent in these devices but, instead, the alignment is entirely the result of action by the user.

In contrast, with the claimed invention, claimed features provide an alignment function.

Therefore, the rejection of claim 1, based on Li, should be reversed.

B. Is Claim 1 Anticipated by Seraphim?

Similarly, Seraphim is cited as teaching elements to which something may be aligned. But those elements are entirely passive with respect to alignment. The user must provide the alignment and is not assisted by any feature which explicitly or inherently provides an alignment function. Thus, Seraphim fails to teach any structure that can fairly be called alignment devices. In short, devices that the user can align are not alignment devices. Alignment devices are devices which function to achieve alignment.

Therefore, the rejection of claim 1, based on Seraphim, should be reversed.

IX. CONCLUSION

Applicants respectfully request that each of the final rejections be reversed and that the claims subject to this Appeal be allowed to issue.

Respectfully submitted,

Date: April 30, 2004

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APPENDIX OF CLAIMS

The claims on appeal are:

1. A large format display comprising:

a plurality of emissive display modules, each module including at least two alignment elements; and

a backframe including a plurality of alignment devices to mate with the alignment elements of said display modules.

2. The display of claim 1 wherein each module includes an electroluminescent display tile secured to a backplate, said backplate including said alignment elements.

3. The display of claim 2, said display tile including front and back surfaces and including a driver chip on the back surface of said display tile and one or more emissive elements on the front surface thereof.

4. The display of claim 3, said modules including fasteners extending from said backplates.

5. The display of claim 4 including elements on said backframe that engage said fasteners to secure said backframe to said modules.

6. The display of claim 4 wherein said backplate removeably connects said modules to said backframe.

7. The display of claim 6 wherein said fasteners are threaded fasteners.

8. The display of claim 1 wherein each module includes a transparent layer and a plurality of spaced apart light emissive cells formed on said layer and defining regions between said cells.

9. The display of claim 8 including an optically absorbing material formed on said layer so as to overlay the region between the cells.

10. The display of claim 1 including a plurality of gaps between adjacent modules, said gaps being covered by an optically absorbing material.

11. The display of claim 10 including an optically clear adhesive between adjacent modules.